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THE ROLE OF THE OCCUPATIONAL HEALTH INSTITUTE IN NATIONAL HEALTH SERVICES

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The role of the occupational health institute in national health services.

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1. Introduction.

Industrialization is one of the typical signs of the developing countries and it causes numerous new problems in the health care of the working population. New health hazards caused by work or working conditions will appear because of new industries, trafic as well as the mechanization of agriculture and forestry.

To control these hazards, more and more knowledge is needed about their causes and prevention. These problems can no longer be solved without special research laboratories or institutes. When building new industries, the protection of the workers health should be taken into consideration at an early stage. The working environment should be safe and healthy, and the health services for the working population should be arranged efficiently by making use of all the experiences and errors made in the so-called developed countries.

This line of modern health work is called occupational health, and [1] it should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment and to summarise: The adaptation of work to man and of each man to his job.

2. Tasks and Organization of Occupational Health Institutes.

From the definition of occupational health, one can see that its concept is a wide one. The work requires specialized knowledge in many fields, - medicine, engineering, chemistry, toxicology, psychology, physiology, statistics - to solve the problems. Also

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1) WHO/ILO Joint Expert Committee 1950.

close team-work between the workers in these different spheres is essential. Without such an unit no country can develop efficient health services and protection for workers. It is advisable to start with a small unit consisting only of an industrial physician and a hygienist. From this small unit, it is possible, later on, to build a complete institute, such as we already have in many countries.

The main functions of such kind of institute should be research, service, training of occupational health personnel and education of the public.

(a) The research work performed by the institute can be divided into two groups:

(i) basic research and

(ii) practical research to meet national or local problems.

Basic research is, of course, already being carried out in developed countries, and this activity should be followed.

For practical purposes, however, research on local problems in the country is of primary importance. The problems to be studied could be given to the institute directly by industry, health authorities, factory inspectors, trade unions, social security institutions, etc.

(b) It is dangerous for an occupational health institute to concentrate solely on "pure science", at the expence of practical service, thus getting out of touch with everyday problems and losing its position as an instrument for the practical promotion of occupational health in society. Such practical activities provide numerous fresh problems for research and keep staff in contact with varying groups of people, such as labour representatives, supervisors, engineers, industrial physicians, private practitioners, personnel managers, safety engineers and inspectors at plants, social security personnel, factory inspectors and the man on the job, etc.

(c) The institute of occupational health should be the centre of training and educational activities in this field in the country. Training should be given, not only in the institute itself;- it is important also to give, assist and promote the training outside the institute, in universities, technical and vocational schools, etc. The institute should plan or assist in the planning of teaching programmes, prepare the text-books required for different groups, produce such teaching material as moving pictures, filmstrips,

slides, etc. General education and information about occupational health are also given by this kind of institute, with the purpose of promoting understanding and a positive attitude to health work among the workers themselves, employers, technicians, politicians, etc.

(d) The teaching function of the institute could be divided into the following sections:

(i) To train specialists in occupational health work for different duties, including administration in ministries, health and labour departments, factory inspection, medical departments in places of employment, institutes, laboratories, employers' and employees' associations, insurance organizations, hospitals, municipal health services, etc.

(ii) To give, or assist in giving, basic knowledge in occupational health to all groups interested in these questions. It is important that as many groups as possible should obtain this knowledge during their school or study time. Thus the institute can promote the teaching in vocational and technical schools and institutes by sending teachers there, or by training them in these schools and preparing teaching materials, text-books, etc. Compulsory courses in occupational health should be given particularly in vocational and technical schools, institutes and universities, in medical faculties and public health schools, schools of nursing, in departments of social sciences in universities, etc. Also occupational health aspects should be added to general health education given in public and other schools.

(iii) To arrange refresher or special courses for the groups mentioned in (i) above and other groups connected with occupational or public health work such as factory inspectors, public health officers, supervisors, members of safety and health committees, firstaid personnel, vocational counsellors, etc.

(e) The tasks in the education of the public: to provide general information by giving lectures, showing moving pictures, distributing educational and informative material, etc. in connection with general meetings and courses for employers, engineers, technicians, supervisors, and trade unions. This group of activities includes also, articles in journals, broadcast talks and television appearances etc. for promoting the knowledge of occupational health in the whole community.

A good library, which also serves individuals and organizations outside the institute, is an additional advantage.

To carry out its functions, the institute should have sufficient personnel, equipment and space. Many times it has, however, to start with only a few people. The personnel could be divided into several working groups or units according to speciality. In addition to these units, there could be separate units for research, service and training, but often, especially in smaller countries, the individuals in different units have to participate in all the functions mentioned. In the following paragraph the required units and their tasks will be described.

(i) Medical unit.

This is of primary importance and should be available for consultation in various medical fields. The tasks of this unit are: a. The diagnosis and treatment of occupational diseases; b. Pre-employment, periodical and other health examinations; c. Health (physician's) surveys at plant; d. Medical examinations for workmen's compensation purposes.

(ii) Industrial Hygiene (and safety) unit.

The tasks of this unit, which is the responsibility of engineers, chemists and physicists, should be as follows: a. The control in the plant of air impurities such as gases, dust, vapours, etc.; b. Temperature, humidity, noise, illumination, radiation-measurement and control etc.; c. Analysis of biological samples from the toxicological aspects; d. Analysis of toxic or dangerous raw material used in the work; e. Planning of a technically healthy working environment.

In smaller institutes, industrial safety (accident prevention) should also be included in this unit.

(iii) Physiological unit.

The unit should take care of research and its application concerning:a. The effect of different methods of work on the human organism; b. The strain imposed by various jobs and the energy required in their performance; c. Nutrition of workers in different kinds of work; d. The best working methods (physiologically) in different jobs, suitable working hours and breaks, working positions and other human engineering aspects; e. Physical fitness and functional tests of heart, lungs, etc.

(iv) Toxicology unit.

Toxic effects of substances used in industry, investigated by animal experimentation.

(v) Psychological unit.

This unit should handle the problems connected with occupational psychology and mental health in industry, as follows: a. Job analysis; b. Vocational guidance; c. Job placement and selection of workers; d. Study of psychological factors in accidents, and the human side of accident prevention; e. Human relations in industry; f. Scientific management, etc.

(vi) Rehabilitation counselling unit.

Most countries nowadays consider vocational rehabilitation as one of the activities belonging to industrial medicine. The organization of a rehabilitation counselling unit will not be too difficult when the abovementioned units are already in operation. What is necessary here, is the arrangement for examination of disabled persons and the planning of rehabilitation for them. The tasks of this kind of unit are the following: a. To assist the rehabilitation authorities, hospitals, nongovernmental organizations, social insurance authorities etc. by examining disabled persons with a view to their rehabilitation, and by establishing a rehabilitation plan in which the necessary treatment is recommended, such as medical treatment, prosthetic appliances, vocational guidance and training, etc.; b. To promote research, training and knowledge of vocational rehabilitation.

(vii) Statistical unit.

This should assist all the other units of the institute with statistical advice and, in addition: a. perform statistical surveys and research into occupational health problems; b. develop and provide statistical methods in occupational health for different organizations, authorities, etc.; c. carry out statistical service for industry and others, for instance concerning recording sickness absenteeism.

(viii) Education and promotion unit.

This unit should: a. develop and provide safety and health education, training and propaganda in schools, among workers, supervisors, engineers, safety engineers, safety committees, etc.; b. prepare and distribute safety and health films, posters, booklets, exhibits, slides and other educational material.

(ix) Safety unit.

This unit, if it is not located in a special safety institute, an insurance organization, technical university or in a ministry of labour, department should generally limit its work to technical accident prevention in industry. Its tasks should be the following: a. Research work into the technical causes of accidents and, in collaboration with the psychological unit, the study of human factors in accidents;- b. Development of safety techniques in different industries and occupations; c. Development of suitable personal safety equipment in collaboration with psychological and industrial hygiene units; d. Collect and analyse accident statistics and develop methods of reporting and recording accidents in collaboration with the statistical unit; e. Provide technical advice on safety methods at plants.

This unit could also be a part of the industrial hygiene unit.

3. How to start and develop the institute.

Personnel requirements to fulfil the tasks of an institute as detailed in "organization" depend of course, on how many of the recommended units are set up. The personnel required in three different types of occupational health teams is seen in the appendix. A illustrates a basic team to start with, B a rather more comprehensive team and C a complete team for a central institute of occupational health. This list also gives some idea of how to start and develop an institute of occupational health. The basic team has often consisted only of an industrial physician and an industrial hygienist.

The space and equipment depends on the size of the laboratory or institute. They are discussed in the WHO/ILO reports.

4. Administration and finances.

The administrative system of the institute, of course, depends greatly on local conditions. Because the problems of occupational health interest many authorities, associations and organizations of different kinds, it is generally felt that these interested groups should be represented in the administrative system of an institute. It is believed too, that the independence and impartiality of an institute is useful in promoting collaboration between groups

holding perhaps different opinions, such as employers and employees organizations, health labour authorities, etc.

Finances of an institute depend on the administration, and are taken care of by the authorities or organization which own or direct the institute - for example, a university, ministries of labour or health, insurance organization etc. Experience in many countries has shown, however, that if the finances of an institute are totally provided for by the governmental budget, its activities are not always flexible. It is important that the bulk of an institute's income should be regular and reliable. It should, however, be emphasized that local conditions greatly influence this financial arrangement.

ANNEX

Personnel required in three different types of occupational health teams.

Unit	Team A	Team B	Team C
1. Medical	Physician(s)(trained in occupational and public health) Consultants in Radiography and Dermatology Nurse(s) Secretary(s)	Industrial physicians Industrial nurses Consultants in Radiography Dermatology Otology Ophthalmology Psychiatry Gynaecology Nurses Secretaries	Industrial physicians Whole or part-time specialists in Radiography Dermatology Otology Ophthalmology Psychiatry Internal Medicine Gynaecology Orthopaedics and surgery Consultants in other special branches of medicine Nurses- Industrial, poli-clinic, laboratory X-ray, visiting and other Social(med.) workers X-ray and other technicians Chauffeurs Office and service pers.(secretaries, typists, assistant nurses, cleaners etc.)

Unit	Team A	Team B	Team C
2. Industrial hygiene	Engineer and chemist (both trained in occupational health) Laboratory technicians Secretary	Industrial hygiene engineer Industrial hygiene chemist Laboratory technicians Secretary(s)	Industrial hygiene engineers Industrial hygiene chemists Industrial hygiene physicists Laboratory technicians and helpers Secretaries and other office personnel
3. Physiological toxicological	Consultant in occupational physiology	Occupational physiologist Toxicologist Laboratory technicians Secretary	Occupational physiologists (med. and others) Toxicologists Chemists Laboratory technicians Office personnel
4. Psychological		Occupational psychologist Assistant	Psychologists Assistant personnel Office personnel
5. Rehabilitation		Consultant in rehabilitation problems	Med. rehabilitation officer Vocational counsellor Physiologist Social worker Assistant and office personnel
6. Statistical		Consultant statistician	Statisticians Assistant and office personnel
7. Health education		Part-time health educator	Health educators

Unit	Team A	Team B	Team C
8. Industrial safety	(Safety engineer in unit 2)	(Safety engineers in unit 2)	Safety engineers Assistant personnel
9. Administration	Secretary	Secretary and clerical staff	Chief of the institute (physician) Secretaries Financial director General personnel - cashier, bookkeeper, typists, kitchen staff, janitors etc. Librarians and assistant Photographers Technicians for technical workshop Chauffeurs

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